

REMARKS

Claims 1-13 and 21-25 were previously pending in this application.

Claims 1-13 and 21-25 stand rejected.

Claim 1 is amended.

Claims 23-25 are cancelled, without prejudice.

New claims 26-27 are added.

No new matter has been added.

Claims 1-13, 21-22 and 26-27 remain in the case.

Applicant requests reconsideration and allowance of the claims in light of the above amendments and following remarks.

Claim Rejections – 35 USC § 103

Claims 1-3 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,231,053 issued to Bost et al, (“Bost”) in view of admitted prior art.

Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Bost and admitted prior art and in view of U.S. Patent no. 5,702,981 Maniar et al., (“Maniar”).

The rejections are respectfully traversed.

Claim 1 is amended to recite:

“the thickness of a portion of the interlayer insulating layer on one of the etching stoppers is different from the thickness of a portion of the interlayer insulating layer on the others;

etching the interlayer insulating layer to form first contact holes therein;
stopping etching when a top surface of each etching stopper is exposed.” Support for these amendments are found in Figure 2 and the accompanying text, for example, page 4, lines 32-34; page 5, lines 15-19 and lines 30-34; page 6, lines 5-7.

In contrast, in Bost, it is stated that “[t]he reactive ion etching is continued until the second TiN layer 32 is completely removed and the underlying titanium layer 30 is revealed.” See col. 4, lines 5-8 and FIG. 5 of Bost.

Thus, Bost does not teach or disclose the above limitations of the claimed invention recited in claim 1. This is because Bost does not stop etching when a top surface of each etching stopper is exposed. Instead, Bost teaches continued etching until the layer 32 is completely removed and the underlying layer 30 is revealed. Therefore, Bost will have the

same problems described in the admitted prior art (page 2, lines 16-21 of the instant application) and, for this reason, does not teach any more than what the admitted prior art.

For reasons discussed, the cited references, either alone or in combination, does not teach or suggest all of the limitations of the claimed invention recited in claim 1. Also, claims 2-13, and 21-22, which depend from claim 1, and recite features that are neither taught nor disclosed in the cited references, are also allowable.

New claims 26-26 are also allowable for the similar reasons discussed above. In particular, new claim 26 recites:

"first etching the interlayer insulating layer to form first contact holes therein using a first etchant having a high etching selectivity between the etching stopper and the interlayer insulating layer; second etching a portion of each etching stopper exposed by the first contact holes, thereby forming second contact holes, using a second etchant having a low etching selectivity between the etching stopper and the capping layer."

Support for these amendments are found in, for example, page 5, lines 28-30 and page 6, lines 3-5.

As discussed above, Bost merely teaches a single etching step, in which the reactive ion etching is continued until the second TiN layer 32 is completely removed and the underlying titanium layer 30 is revealed. Thus, Bost does not teach first and second etching each using first and second etchants, respectively, as recited in claim 26.

For the foregoing reasons, reconsideration and allowance of claims 1-13, 21-22 and 26-27 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.



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Respectfully submitted,

MARGER JOHNSON & McCOLLOM, P.C.

Scott A. Schaffer
Reg. No. 38,610

MARGER JOHNSON & McCOLLOM
1030 SW Morrison Street
Portland, OR 97205
(503) 222-3613